

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-40 are pending in the present application; Claims 1-40 having been amended and Claim 41 having been canceled by way of the present amendment.

In the outstanding Office Action, Claims 5-22 and 27-41 were objected to as being in improper multiple dependent form; Claim 41 was objected to; Claim 41 was rejected under 35 U.S.C. § 101; and Claims 1-4, 23-26, and 41 were rejected under 35 U.S.C. § 102 as being clearly anticipated by Ganlantowicz, Japanese Patent Application 2002/298063, Japanese Patent Application 2002/367065, and Smith et al. (6,947,842).

Claims 5-22 and 27-41 were objected to under 37 C.F.R. § 1.75(c) as being in improper multiple dependent form. In response to this objection, these claims have been amended to be in proper dependent form and accordingly, the objection is respectfully requested to be withdrawn.

Claim 41 was objected to under 37 C.F.R. § 1.75(c) and also rejected under 35 U.S.C. § 101. This claim is similar to a claim analyzed by the Federal Circuit in the *In re Warmerdam* decision. As the Federal Circuit found this claim clear, definite, and statutory, Claim 41 should similarly be allowable. However, in the interest of expediting prosecution, Claim 41 has been canceled.

Claims 1-4, 23-26 and 41 stand rejected under 35 U.S.C. § 102 as being clearly anticipated by Ganlantowicz, JP 2002/298063, JP 2002/367065, and U.S.P. 6,947,842 to Smith et al. These rejections are respectfully traversed.

According to the present invention, a spatial high resolution grid is generated for a specific geographical territory. Associated with the grid are flood risk factors which indicate an average flood frequency and/or susceptibility to flooding within a grid cell. The flood risk

factors are calculated based on flood zone data associated with the specific geographical territory. The flood zone data indicates in the specific geographic territory flood zones with defined return periods (e.g., a 50-year flood zone, a 100-year flood zone, and a 500-year flood zone). Further, river discharge parameters are determined by distributed gauging stations for a return period as a measure of intensity of flood events.

The flood risk factors and the river discharge parameters are linked by a correlation module to generate an event-specific average probabilistic water depth value for a flood event, the probabilistic water depth value being associated with the corresponding grid cell.

In the documents cited in the outstanding Office Action used to reject the claims, the features recited in the claims are not found in these references and therefore, there can be no anticipation. Further, there is no reason to modify the references in order to render the claimed invention obvious.

Turning to the specific limitations recited in the claims, Claim 1 recites a central unit including a multi-dimensional lookup table. This lookup table corresponds to a spatial high resolution grid of a specific geographical territory. Flood risk factors are associated with the grid and indicate an average flood frequency and/or susceptibility to flooding within a grid cell. Further, the flood risk factors are calculated based on flood zone data associated with the specific geographic territory, and the flood zone data indicating in the specific geographical territory flood zones with defined return periods. The feature recited in this first paragraph of the body of Claim 1 is neither disclosed nor suggested by any of the prior art. Next, Claim 1 recites distributed gauging stations configured to determine river discharge parameters. The river discharge parameters are within an area of multiple grid cells. The distributed gauging stations further transit the river discharge parameters over a network to the central unit. The river discharge parameters comprise values for a return period of a

measure of intensity of flood events. The feature recited in Claim 1 is neither disclosed nor suggested by any prior art of record and not addressed in the outstanding Office Action.

Next, Claim 1 recites that the central unit comprises a correlation module configured to generate an event-specific average probabilistic water depth value for a flood event based on the linked flood risk factors and the river discharge values. Further, the correlation module is used to associate the probabilistic water depth value with the corresponding grid cell. This feature of Claim 1 is neither disclosed nor suggested by any prior art of record and not addressed in the outstanding Office Action.

The prior art documents cited by the outstanding Office Action do not result in or disclose or suggest the claimed combination of features. Further, there is no motivation that would lead one of ordinary skill in the art to the system or method as claimed.

The claimed invention has the advantage which makes it possible an efficient combination of high resolution local hazard (flood risk factors P) and event intensity (river discharge parameters T) yielding high resolution water levels (water depth value H) for thousands of locations (associating the probabilistic water depth value H to the corresponding grid cell). Thereby, the needs for data storage capacity and computation resources are reduced substantially. For a simulation in a rating process, for example, instead of having to store water depth values for each of tens of thousands of events, only the flood risk factors are stored with high resolution (i.e., only one flood frequency map needs to be stored at a highly detailed level) (see e.g., p. 6, lines 18-24 of the specification). Thus, a much more economical use of storage is achieved by the present invention which positively influences the use of computer processing and the performance of the rating process.

The outstanding Office Action first references Ganlantowicz (“High-Resolution Flood Mapping From Low-Resolution Passive Microwave Data”). This document teaches a method for generating in real-time high-resolution flood maps from low-resolution satellite

observations using passive microwaves. However, the above described features recited in the claims are neither disclosed nor suggested by Ganlantowicz.

JP 2002/298063 discloses an inundation map system for forecasting inundation states. According to this document, the system uses real-time precipitation data as well as topographical data for determining inundation states in a target area. Specifically, JP 2002/298063 performs an outflow analysis for determining the outflow of rain. Further, this document determines inundation quantity and position. The extent of the inundation is determined based on the outflow analysis and terrain analysis. However, this document neither discloses nor suggests the above-recited features of the claims and accordingly, JP 2002/298063 neither discloses nor suggests the claimed invention.

JP 2002/367065 teaches a system for displaying historical flood information for a selected position in a river map. Moreover, JP 2002/367065 teaches a program which provides disaster-prevention information. The program receives rainfall data and water levels present at predetermined locations of a river. Prediction data containing the historical flood data having a past most similar to the received rainfall and water levels is shown, and the application prediction data can be obtained. However, the above-reviewed features of the claims are neither disclosed nor suggested by this Japanese document.

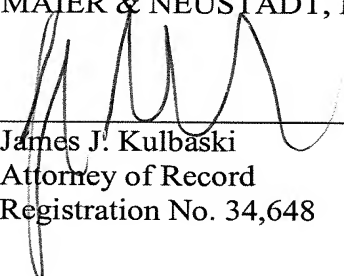
Finally, U.S. Patent 6,947,842 to Smith et al. teaches methods and systems for creating an inundation map by receiving flood forecast with localized flood levels and determining normal flood levels from the localized flood levels. However, the above-described features of the invention are neither disclosed nor suggested by this patent.

Based on the above, each of the claims is believed patentable over the prior art and withdrawal of the prior art rejections is respectfully requested.

Consequently, in light of the above discussion and in view of the present amendment, the present application is in condition for formal allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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